

DETAILED ACTION
EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kevin Jablonski (Reg. No. 50,401) on June 6, 2010.

The application has been amended as follows:

Claims 6-20 are cancelled.

Allowable Subject Matter

1. Claims 1-5,21-42,49-50 (now renumbered 1-29) are allowed.
2. The following is an examiner's statement of reasons for allowance:

Independent Claim 1, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a head connection polarity detector comprising *a circuit operable to recover servo data from a servo signal generated by an electromagnetic read write head that is coupled to the circuit with a connection polarity, the servo signal having a phase that represents the connection polarity*, in combination with the other limitations in the claim.

Independent Claim 21, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a synchronization mark and head

connection polarity detector comprising *the Viterbi detector, the electromagnetic read bead having a connection polarity; and a comparator coupled to the Viterbi detector and operable to determine if the connection polarity of the electromagnetic read bead is incorrect by comparing the recovered synchronization mark to a reference synchronization mark.*, in combination with the other limitations in the claim.

Independent Claim 27, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a servo channel comprising *a servo signal that represents a servo synchronization mark and that has a phase that represents a connection polarity of an electromagnetic read set during installation bead; and a first Viterbi detector operable to recover the synchronization mark from the samples of the servo signal; and a comparator coupled to the first Viterbi detector and operable to determine if the phase of the servo signal is reversed based on the recovered synchronization mark*, in combination with the other limitations in the claim.

Independent Claim 32, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a servo channel comprising *a servo signal that represents a servo synchronization mark and that has a phase that represents a connection polarity of an electromagnetic read bead set during installation; and... a first Viterbi detector operable to recover the synchronization mark from the samples of the servo signal; and a comparator coupled to the first Viterbi detector and operable to determine if the phase of the servo signal is reversed based on the recovered synchronization mark; a comparator coupled to the first Viterbi detector and operable to determine if the phase of the servo signal is reversed based on the recovered synchronization mark; wherein the servo signal also represents servo data other than the synchronization mark; and a second Viterbi detector coupled to the sampling circuit and operable to recover the other servo data from the samples of the servo signal*, in combination with the other limitations in the claim.

Independent Claim 33, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest *a servo signal that represents a binary sequence that includes a servo synchronization mark and other servo data, the servo signal having a phase that represents a connection polarity of an electromagnetic read set during installation bead; and a detector coupled to the sampling circuit and comprising, a Viterbi detector operable to recover the synchronization mark and the other servo data from the samples of the servo signal; and a comparator coupled to the Viterbi detector and operable to determine if the phase of the servo signal is reversed based on the recovered synchronization mark.*

Independent Claim 36, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest *a disk drive system comprising a sampling circuit operable to generate samples of the servo signal and to adjust a phase of the samples to a desired value in response to a determined phase of the servo signal, a synchronization mark and coupling polarity detector coupled to the sampling circuit and comprising, a first Viterbi detector operable to recover the synchronization mark from the samples of the servo signal, and a comparator coupled to the first Viterbi detector and operable to determine the phase of the servo signal from the recovered synchronization mark and to provide the determined phase to the sampling circuit, and a second Viterbi detector coupled to the sampling circuit and operable to recover the other servo data from the samples of the servo signal, in combination with the other limitations in the claim.*

Independent Claim 37, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest *a disk drive system comprising a read bead having a connection polarity and operable to generate a servo signal that represents the synchronization mark and the other servo data, the servo signal having a phase that represents the connection polarity; a servo channel coupled*

to the read bead, the servo channel comprising, a sampling circuit operable to generate samples of the servo signal, and a Viterbi detector operable to recover the synchronization mark and other servo data from the samples of the servo signal regardless of the phase of the servo signal, in combination with the other limitations in the claim.

Independent Claim 38, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a method comprising *the servo signal representing servo data and having a phase that represents a connection polarity of the electromagnetic read bead set during installation set during installation of the read bead; and determining whether the phase of the servo signal is reversed based on the recovered servo data*, in combination with the other limitations in the claim.

Independent Claim 49, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a method comprising *the servo signal having a phase that represents a connection polarity of the read bead; and recovering servo data from the servo signal regardless of the phase of the servo signal.*

Independent Claim 50, is allowable over the prior art record since the cited references, in particular Christiansen et al. (US 6,639,748); Leis et al. (US 5,862,005); McClellan et al. (US 6,909,567), taken alone or in combination do not teach or suggest a method *the servo signal having a phase that represents a connection polarity of the read bead; determining whether the phase of the servo signal is reversed or not reversed; generating non-inverted samples of the servo signal if the phase is not reversed; and generating inverted samples of the servo signal if the phase is reversed.*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shrinkle (US 5,608,583); Christiansen et al. (US 6,369,969); Bowen et al. (US 6,534,974); Takahashi (US 6,507,447); Kosugi (US 5,757,576); Hayashi (US 5,430,582); Tomita et al. (US 6,295,175); Dovek et al. (US 5,650,887); Dunn (US 7,061,704); Chiang et al. (US 2005/0157415); Abbott et al. (US 5,345,342); Rezzi et al. (US 6,492,918); Rezzi et al. (US 6,662,338); Neville et al. (US 7,423,827); Ozdemir et al. (US 6,604,204), Axmear et al. (US 4,549,232).

2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DISMERY E. MERCEDES whose telephone number is (571) 272-7558. The examiner can normally be reached on Monday - Friday, from 7:00am - 3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dismery E. Mercedes/
Primary Examiner, Art Unit 2627